

Preventative Rehabilitation for Recreational and Competitive Swimmers

Common Shoulder Injuries in Swimmers

Rotator Cuff

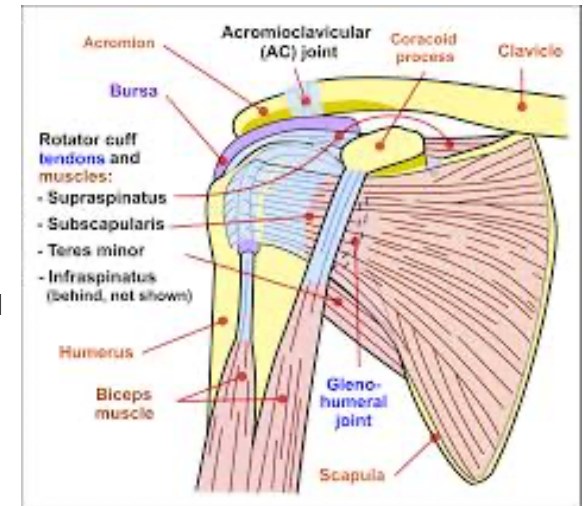
- *Involves:* Supraspinatus, subscapularis, infraspinatus, and teres minor
- *What is it:* Overuse that can lead to tendinitis, inflammation of the tendons, or tears in the muscles
- *Symptoms:* Pain, weakness, decreased range of motion

Shoulder Impingement Syndrome

- *Involves:* Supraspinatus, subscapularis, infraspinatus, and teres minor and their tendons
- *What is it:* Tendons and muscles of rotator cuff become compressed with movement due to tightness in surrounding muscles
- *Symptoms:* Pain when lifting your arm overhead and tenderness when touching the front and outside of your shoulder

Labral Tears

- *Involves:* Labrum, a ring of cartilage, around the ball and socket of your shoulder joint
- *What is it:* Damage to the labrum, often from repetitive overhead motions of swimming
- *Symptoms:* Pain, clicking, or catching in your shoulder joint



Common Knee Injuries in Swimmers

Breaststroker's knee

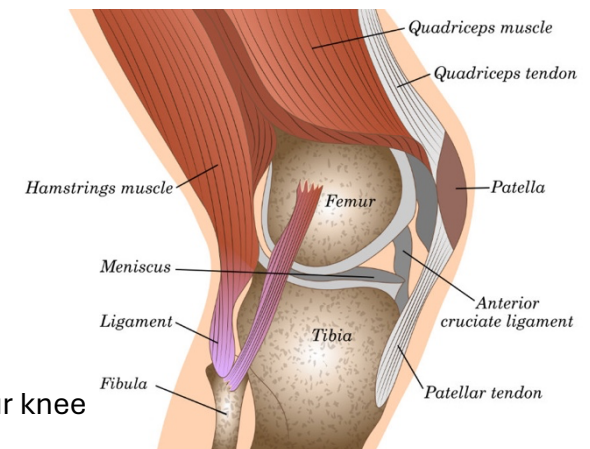
- *Involves:* Medial collateral ligament (MCL) and lateral meniscus
- *What is it:* Excessive stress on knee joint caused by the repetitive motion of a breaststroke kick
- *Symptoms:* Pain in and around the inside and outside of your knee

Patellofemoral Pain Syndrome (PFPS)

- *Involves:* Kneecap and structures surrounding the knee
- *What is it:* Overuse, muscle imbalance, or improper alignment of the knee joint
- *Symptoms:* pain around the front of your knee, especially when bending

Iliotibial Band Syndrome (ITBS)

- *Involves:* Iliotibial band, a ligament that runs from the outside of your hip to the outside of your knee
- *What is it:* Inflammation of the iliotibial band
- *Symptoms:* Lateral (outside) knee pain that gets worse when swimming or kicking for extended periods of time



Common Back Injuries in Swimmers

Muscle Strains

- *Involves:* muscles of the low back such as the multifidus, erector spinae, quadratus lumborum, and spinalis muscles
- *What is it:* Overstretching and/or tearing of the muscles in the low back; this often happens repetitive poor technique
- *Symptoms:* Pain in the low back, muscle stiffness, and loss of range of motion

Lumbar Sprains

- *Involves:* Ligaments of the low back, connected to vertebrae and the muscles listed above
- *What is it:* Injury to the ligaments in your lower back that often happens with twisting or high force/velocity movements
- *Symptoms:* Pain and tenderness in your low back, swelling, and limited/decreased range of motion

Spondylolysis (Stress Fracture of a Vertebrae)

- *Involves:* Vertebrae of the lumbar spine
- *What is it:* A stress fracture of a vertebrae in the lumbar spine that is often caused by repetitive extension motions in the spine, such as swimming butterfly
- *Symptoms:* Pain and tenderness in the low back, especially when completing activities, and muscle tightness

Diagram of Back Muscles



Preventative Rehabilitation for Recreational and Competitive Swimmers

Three of the most common areas of injury for swimming are **shoulders, knees,** and the **low back.** Ensuring that you are appropriately warming up the supporting muscle groups before a training session will allow you to get all of the aerobic benefits without any skeletomuscular consequences!

Shoulders:

Dynamic Stretching – before each session

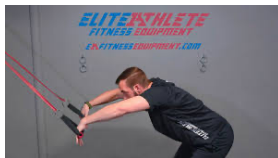
- Large arm circles – 30s ea. way
- Arm across chest – 3x30s ea. arm

Strengthening – 2-3x/week

- Scapular push-ups – 2-3 sets x 10 reps



- Wall angels – 2-3 x 10 (above right)
- Banded lat pulldowns – 2-3 x 10



- Banded external rotation – 2-3 x 10



Knees:

Dynamic Stretching – before each session

- Leg swings – 10 fwd/bk; 10 side-to-side
- Pulsing sumo squat – hold for 30s



Strengthening – 2-3x/week

- Quad sets – 10 sets of 5 seconds
- Banded lateral walk – 25yd each side



- Step-ups – 2-3 x 10
- Banded squats – 2-3 x 10



Low Back/Core:

Dynamic Stretching – before each session

- Trunk twists – 30s



- Cat-Cow – 10 reps, slow and controlled
- Strengthening – 2-3x/week

- Glute bridges – 10 sets of 5 seconds
- Flutter kicks – 1 min or 2 x 30s



- Good mornings – 2-3 x 10 reps (left below)



- Dead bugs – 2-3 x 10 each leg (above right)

Shoulders:

Cool Down – after each session

- Arm across chest – 3 x 30s ea.
- Doorway stretch – 3 x 30s



- Triceps stretch – 3 x 30s ea.



Knees:

Cool Down – after each session

- Kneeling hip flexor stretch – 3 x 30s ea.



- Quadriceps stretch – 3 x 30s each leg



- IT band stretch – 3 x 30s ea.



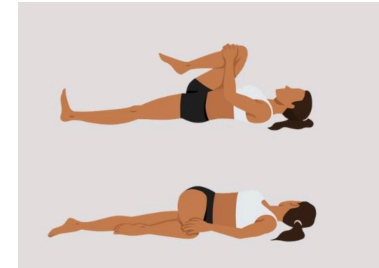
Low Back/Core:

Cool Down – after each session

- Piriformis stretch – 3 x 30s ea.



- Leg crossover stretch – 3 x 30s ea.



- Cobra stretch – 3 x 30s



Frequency: The dynamic **stretching and cool down** portions of this protocol should be completed **before and after** each swimming session, respectively. The **strengthening** portion should be completed **2-3 times per week**.

*****NOTE:** If you are having pain or severe, continuous muscle soreness, please contact your MD/DO or IMG Physical Therapy. You can reach IMG-PT at 610-944-8410 for any assistance with issues that may arise within your preventative rehabilitation protocol. Happy swimming!**